



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,161	07/11/2003	Alan John Brasier	UDL-101US1	4064
23122	7590	06/15/2005	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			AFTERGUT, JEFF H	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/618,161	BRASIER, ALAN JOHN	
	<b>Examiner</b>	Art Unit	
	Jeff H. Aftergut	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 22-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 22-35 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 22-25 and 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meeks in view of Zocher.

Meeks taught a process of making a tennis ball which included the formation of a needled felt wherein the process included the steps of forming the needled felt by needling together a nonwoven web and a scrim, cutting portion of the needled felt so that the same were adapted to cover a ball core, and attaching via an adhesive the cover material to the ball core. The reference suggested that the scrim be a knit scrim and that the nonwoven batt include both wool and nylon (polyamide) fibers therein. The reference to Meeks did not expressly teach how one skilled in the art would have needled the layers together to make the nonwoven needle felt assembly (but rather merely recites that the same were needled together).

Zocher taught that it was known at the time the invention was made to form a needle felt by passing a nonwoven batt through a needle felt machine having at least one needle board with barbed needles and needle felting the batt such that the needles penetrate the batt in a range of angles including a plurality of angles that were non-perpendicular with the respect to the surface of the batt as evidenced by the needling process performed in Figure 2. More specifically, barbed felting needles 97 are

Art Unit: 1733

disposed on two separate needling boards 96 disposed on opposed sides of the felt 90. As the felt is traveling over the rolls 91-95, the web 90 of nonwoven fibers was needled such that the straight needles penetrated the surface of the web at an angle other than perpendicular to the web 90. Needling in this fashion would have resulted in a textile web having "a greater degree of compaction for a given amount of needling, fewer broken or torn fiber strands and consequently harder and more compact web surfaces, and enhanced fiber concentration resulting in an increase in strength and durability for the textile web", column 6, lines 31-41. As such, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the techniques of Zocher for needling the felts therein in the process of making a needled felt for a tennis ball as taught by Meeks.

With respect to claim 23, note the needles as depicted in Figure 2 of Zocher pass through the thickness of the batt. Regarding claims 24 and 25, note that the batt is clearly curved as it proceeds over the rolls in Zocher during the needling operation in Figure 2 as the batt travels along the feed direction. Regarding claim 27, note as depicted in Figure 2, there are two needling boards 96 on opposed sides of the batt being needled. Regarding claim 28, note that the needles pass through the thickness of the batt as depicted in the Figures of Zocher. Regarding claim 29, note that the reference to Meeks suggested that those skilled in the art would have incorporated a scrim which was formed from a warp knit of material. Note that the scrim is adjacent to the ball core when the needled assembly was attached to the ball core. Regarding claim 30, note that the batt is needled to the scrim in Meeks. Regarding claims 31 and 32,

needling in the fashion claimed according to Zocher would have resulted in the specified needled density. Additionally, one skilled in the art would have understood that such an arrangement would have been desirable for a tennis ball cover and would have practiced the needling operation to attain the specified densities. Regarding claim 33, note as addressed above, the needles extend through the thickness in the batt in the operation of needling as depicted in Figure 2 of Zocher. Regarding claim 34, note that Meeks suggested the specified blend of nylon (polyamide) and wool fibers.

3. Claim 22-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as stet forth above in paragraph 2 further taken with any one of Fehrer '101, Fehrer '596 or Morrill.

The references as set forth above in paragraph 2 suggested the overall operation, however there is no indication that one skilled in the art at the time the invention was made would have employed a curved needle board which was curved to correspond to the shape of the curvature of the substrate being needled, as recited in claim 26. The applicant is advised that those versed in the art at the time the invention was made were well aware of the use of a needle board which was curved to correspond to the shape of the substrate being needled as evidenced by any one of Fehrer '101, Fehrer '596 or Morrill. The applicant is specifically referred to the Figures of each of the references where clearly the needle board of each reference was disposed along a curved path which corresponded to the curvature of the substrate being needled. The applicant is additionally advised that as an alternative to needling in the fashion proposed by Zocher, one skilled in the art at the time the invention was made

Art Unit: 1733

would have found the use of the needling boards of any one of Fehrer '101, Fehrer '596 or Morrill as an alternative arrangement wherein the needles penetrated the web at an angle different from one which was perpendicular to the web surface. As expressed by the reference to Morrill, the use of an angled needle penetration allows one to better increase the holding action of the repositioned fibers in the batt, see column 1, line 68-column 2, line 6. The reference to Fehrer '101 suggested that the use of the curved arrangement allowed one to omit the stripper device typically used in the needling operation, see column 1, lines 13-58. The reference to Fehrer '596 suggested that by employing the curved configuration the longitudinal strength of the finished needled felt would have been increased, see column 1, lines 14-42. Clearly, it would have been desirable to incorporate a curved needling operation and such would have imparted increased strength and hold to the finished nonwoven needle felted material. As it would have been viewed as an alternative arrangement for the needling boards, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of any one of Fehrer '101, Fehrer '596 or Morrill which included using a curved needle board which corresponded to the shape of the curvature of the felt being needled in the process of needling a felt for manufacture of a needle punched nonwoven for a tennis ball as suggested by the references as set forth above in paragraph 2.

With regard to the various deponent claims (with the exception of claim 26), applicant is referred to paragraph 2 above.

4. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in either one of paragraphs 2 or 3 further taken with U.K. Patent 1,588,380.

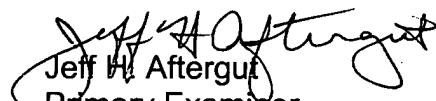
The reference to Meeks as discussed above suggested that those skilled in the art at the time the invention was made would have formed a covering material for a tennis ball by needling together a nonwoven layer with a knit scrim, however there is no indication that the scrim was formed from polyester or polyamide fibers. However, in the art of manufacturing a tennis ball, it was known at the time the invention was made to employ a knit structure for the cover of a tennis ball (which was needled with a nonwoven) which included polyester or polyamide fiber knitted scrims as evidenced by U.K. '380. More specifically, applicant is referred page 1, line 42-page 2, line 5 where is clear that those skilled in the art would have known what materials would have been suitable for the knitted scrim material for the cover of the ball and would have selected the scrim from those which are conventionally employed in the operation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the scrims of U.K. 1,588,380 to form a tennis ball covering material wherein the scrims were formed from polyester or polyamide fibers as suggested by U.K. 1,588,380 in the process of making the tennis ball felts and ball assemblies as taught above in either one of paragraph 2 or paragraph 3.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeff H. Aftergut  
Primary Examiner  
Art Unit 1733

JHA  
June 10, 2005